



# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number: 127319**

**TO: Shailendra Kumar**  
**Location: 5d61 / 5c18**  
**Sunday, July 25, 2004**  
**Art Unit: 1621**  
**Phone: 272-0640**  
**Serial Number: 10 / 612609**

**From: Jan Delaval**  
**Location: Biotech-Chem Library**  
**Rem 1A51**  
**Phone: 272-2504**

**jan.delaval@uspto.gov**

### **Search Notes**

Jan please

Access DB# 127319

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: S. Kumar Examiner #: 69594 Date: 7/15/04  
Art Unit: 1621 Phone Number 301 272-0640 Serial Number: 101612609  
Mail Box and Bldg/Room Location: REM 556 Results Format Preferred (circle): PAPER DISK E-MAIL  
5 C18

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

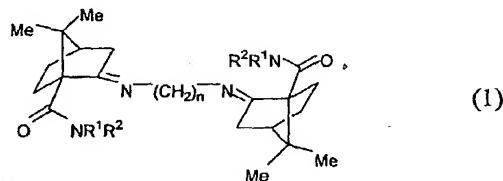
Title of Invention: Chiral chelating agent and chiral catalyst  
Inventors (please provide full names): Kwunmin Chen et al.

Earliest Priority Filing Date: 2/27/03

File:10566USF.RTF

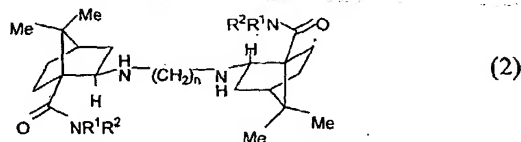
### WHAT IS CLAIMED IS:

1.A chiral chelating agent having a formula (1) as follows and an enantiomeric isomer thereof:



5 wherein R<sup>1</sup> and R<sup>2</sup> represent H, methyl, ethyl, a primary, secondary or tertiary straight, branched or cyclic alkyl group having 3-7 carbon atoms, a heterocyclic or aromatic group, an aromatic group substituted at the 2-, 3- or 4-position, an aromatic-like group, or a naphthyl or naphthyl-derived group, and n is an integer between 0 and 4.

10 2.A chiral chelating agent having a formula (2) as follows and an enantiomeric isomer thereof:



15 wherein R<sup>1</sup> and R<sup>2</sup> represent H, methyl, ethyl, a primary, secondary or tertiary straight, branched or cyclic alkyl group having 3-7 carbon atoms, a heterocyclic or aromatic group, an aromatic group substituted at the 2-, 3- or 4-position, an aromatic-like group, or a naphthyl or naphthyl-derived group, and n is an integer between 0 and 4.

3.A chiral chelating agent having a formula (3) as follows and an enantiomeric isomer thereof:

=> fil reg

FILE 'REGISTRY' ENTERED AT 15:28:08 ON 25 JUL 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 23 JUL 2004 HIGHEST RN 715654-51-6

DICTIONARY FILE UPDATES: 23 JUL 2004 HIGHEST RN 715654-51-6

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

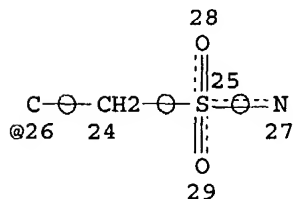
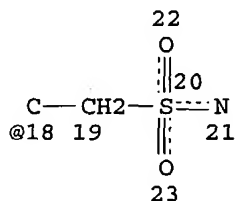
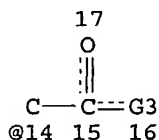
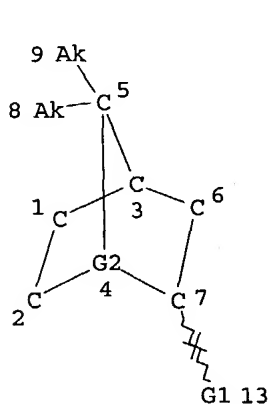
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d sta que 18

L1 STR



VAR G1=O/N

VAR G2=14/18/26

VAR G3=O/N

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

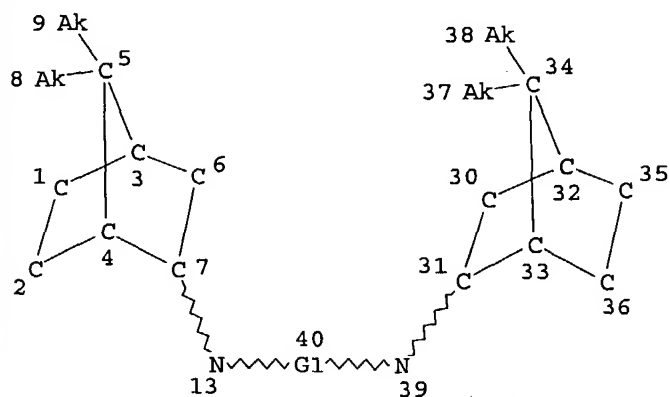
RSPEC 7

NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE

L5 2534 SEA FILE=REGISTRY SSS FUL L1

L6 STR



REP G1=(0-1) AK

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 8

CONNECT IS E1 RC AT 9

CONNECT IS E1 RC AT 37

CONNECT IS E1 RC AT 38

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 34 7

NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L8 4 SEA FILE=REGISTRY SUB=L5 SSS FUL L6

100.0% PROCESSED 64 ITERATIONS

4 ANSWERS

SEARCH TIME: 00.00.01

=&gt; d ide can tot l8

L8 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2004 ACS on STN

RN 500224-35-1 REGISTRY

CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-azinobis[7,7-dimethyl-,  
(1S,1'S,2E,2'E,4R,4'R) - (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C20 H28 N2 O4

SR CA

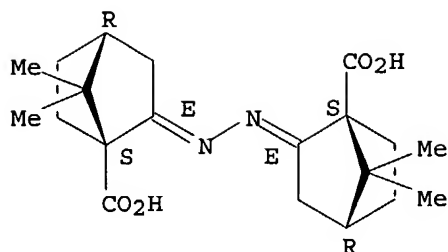
LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Journal

RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties); USES  
(Uses)

Absolute stereochemistry.

Double bond geometry as shown.



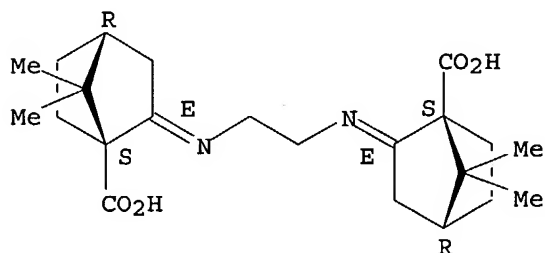
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:204497

L8 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 500224-32-8 REGISTRY  
CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-(1,2-ethanediylidinitrilo)bis[7,7-dimethyl-, (1S,1'S,2E,2'E,4R,4'R) - (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C22 H32 N2 O4  
SR CA  
LC STN Files: CA, CAPLUS, CASREACT  
DT.CA Caplus document type: Journal  
RL.NP Roles from non-patents: PREP (Preparation); USES (Uses)

Absolute stereochemistry.  
Double bond geometry as shown.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

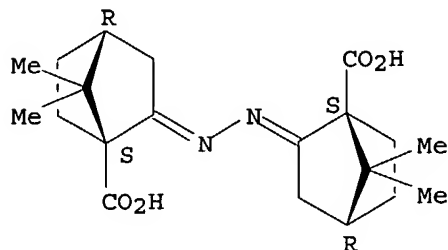
1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:204497

L8 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 423770-46-1 REGISTRY  
CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-azinobis[7,7-dimethyl-, (1S,1'S,4R,4'R) - (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C20 H28 N2 O4  
SR CA  
LC STN Files: CA, CAPLUS, CASREACT  
DT.CA Caplus document type: Journal

RL.NP Roles from non-patents: PREP (Preparation); USES (Uses)

Absolute stereochemistry.  
Double bond geometry unknown.



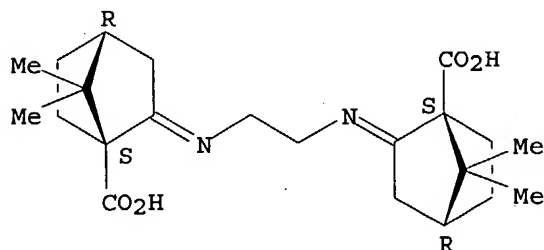
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 136:369559

L8 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2004 ACS on STN .  
RN 423770-45-0 REGISTRY  
CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-(1,2-ethanediyldinitrilo)bis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C22 H32 N2 O4  
SR CA  
LC STN Files: CA, CAPLUS, CASREACT  
DT.CA CAplus document type: Journal  
RL.NP Roles from non-patents: PREP (Preparation); USES (Uses)

Absolute stereochemistry.  
Double bond geometry unknown.

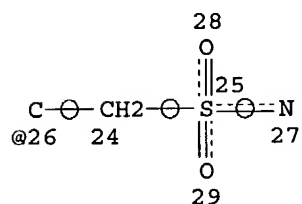
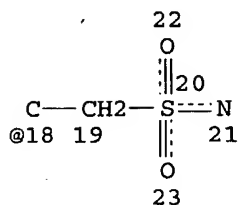
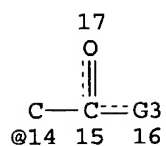
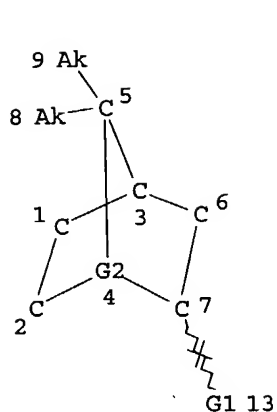


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 136:369559

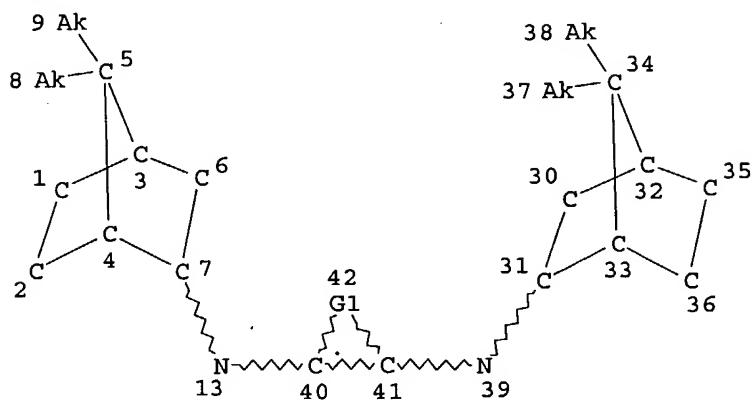
=> d sta que l11  
L1 STR



VAR G1=O/N  
 VAR G2=14/18/26  
 VAR G3=O/N  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC 7  
 NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE  
 L5 2534 SEA FILE=REGISTRY SSS FUL L1  
 L9 STR



REP G1=(0-4) C  
 NODE ATTRIBUTES:  
 CONNECT IS E1 RC AT 8  
 CONNECT IS E1 RC AT 9  
 CONNECT IS E1 RC AT 37  
 CONNECT IS E1 RC AT 38

DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC 31 7  
NUMBER OF NODES IS 23

## STEREO ATTRIBUTES: NONE

L11 6 SEA FILE=REGISTRY SUB=L5 SSS FUL L9

100.0% PROCESSED 6 ITERATIONS  
SEARCH TIME: 00.00.01

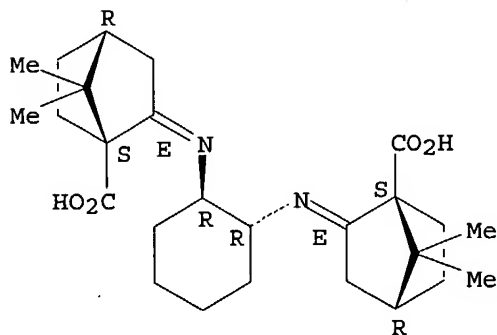
6 ANSWERS

=> d ide can tot l11

L11 ANSWER 1 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 500224-34-0 REGISTRY  
CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1R,2R)-1,2-cyclohexanediylldinitrilo]bis[7,7-dimethyl-, (1S,1'S,2E,2'E,4R,4'R) - (9CI)  
(CA INDEX NAME)  
FS STEREOSEARCH  
MF C26 H38 N2 O4  
SR CA  
LC STN Files: CA, CAPLUS  
DT.CA CAplus document type: Journal  
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties); USES  
(Uses)

Absolute stereochemistry.

Double bond geometry as described by E or Z.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

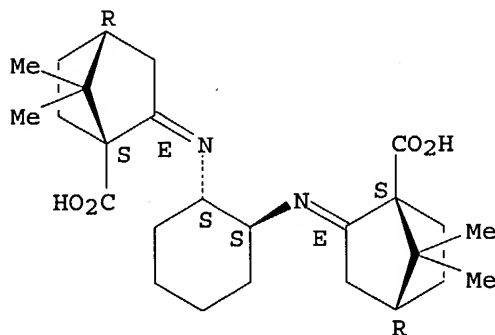
1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:204497

L11 ANSWER 2 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 500224-33-9 REGISTRY  
CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1S,2S)-1,2-cyclohexanediylldinitrilo]bis[7,7-dimethyl-, (1S;1'S,2E,2'E,4R,4'R) - (9CI)  
(CA INDEX NAME)  
FS STEREOSEARCH  
MF C26 H38 N2 O4  
SR CA

LC STN Files: CA, CAPLUS  
 DT.CA CAplus document type: Journal  
 RL.NP Roles from non-patents: PREP (Preparation); USES (Uses)

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



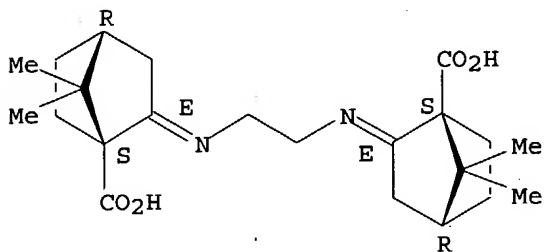
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:204497

L11 ANSWER 3 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 500224-32-8 REGISTRY  
 CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-(1,2-ethanediylidinitrilo)bis[7,7-dimethyl-, (1S,1'S,2E,2'E,4R,4'R) - (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C22 H32 N2 O4  
 SR CA  
 LC STN Files: CA, CAPLUS, CASREACT  
 DT.CA CAplus document type: Journal  
 RL.NP Roles from non-patents: PREP (Preparation); USES (Uses)

Absolute stereochemistry.  
 Double bond geometry as shown.



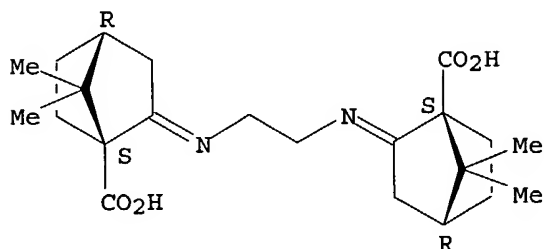
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:204497

L11 ANSWER 4 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 423770-45-0 REGISTRY  
 CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-(1,2-ethanediyldinitrilo)bis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C22 H32 N2 O4  
 SR CA  
 LC STN Files: CA, CAPLUS, CASREACT  
 DT.CA Caplus document type: Journal  
 RL.NP Roles from non-patents: PREP (Preparation); USES (Uses)

Absolute stereochemistry.  
 Double bond geometry unknown.



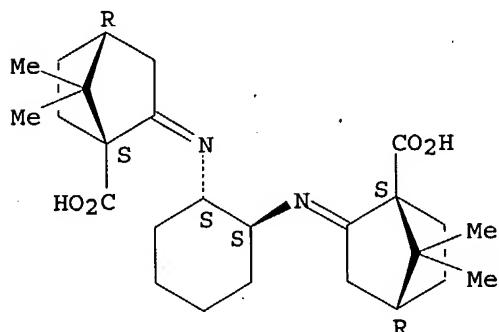
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 136:369559

L11 ANSWER 5 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 404582-36-1 REGISTRY  
 CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1S,2S)-1,2-cyclohexanediyl dinitrilo]bis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C26 H38 N2 O4  
 SR CA  
 LC STN Files: CA, CAPLUS, CASREACT  
 DT.CA Caplus document type: Journal  
 RL.NP Roles from non-patents: PREP (Preparation); USES (Uses)

Absolute stereochemistry.  
 Double bond geometry unknown.



**\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\***

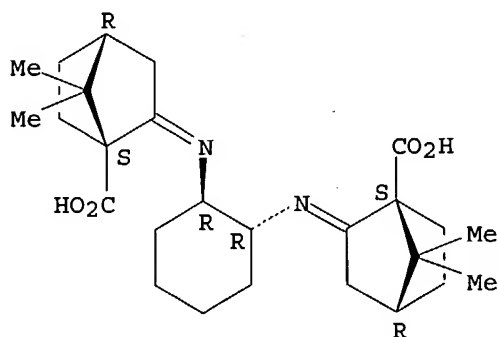
2 REFERENCES IN FILE CA (1907 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 136:369559

REFERENCE 2: 136:247173

L11 ANSWER 6 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 404582-34-9 REGISTRY  
CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1R,2R)-1,2-cyclohexanediylldinitrilo]bis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA  
INDEX NAME)  
FS STEREOSEARCH  
MF C26 H38 N2 O4  
SR CA  
LC STN Files: CA, CAPLUS, CASREACT  
DT.CA Caplus document type: Journal  
RL.NP Roles from non-patents: PREP (Preparation); USES (Uses)

Absolute stereochemistry.  
Double bond geometry unknown.

**\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\***

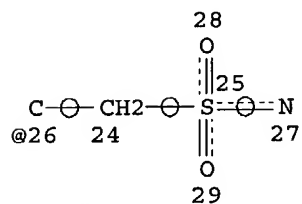
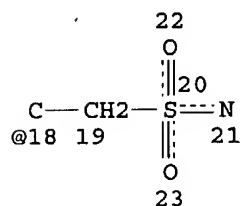
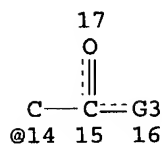
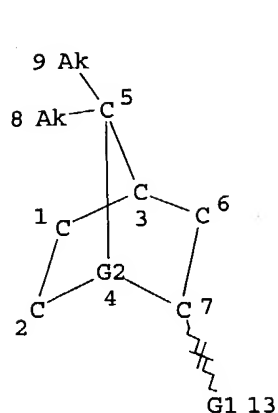
2 REFERENCES IN FILE CA (1907 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 136:369559

REFERENCE 2: 136:247173

=&gt; d que 113

L1 STR



VAR G1=O/N  
 VAR G2=14/18/26  
 VAR G3=O/N  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC 7  
 NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE  
 L5 2534 SEA FILE=REGISTRY SSS FUL L1  
 L12 11 SEA FILE=REGISTRY ABB=ON PLU=ON L5 AND C6-C6/ES AND NR>=8  
 L13 0 SEA FILE=REGISTRY ABB=ON PLU=ON L12 NOT (S OR P)/ELS

=> d his

(FILE 'HOME' ENTERED AT 14:57:50 ON 25 JUL 2004)  
 SET COST OFF

FILE 'REGISTRY' ENTERED AT 14:58:00 ON 25 JUL 2004

L1 STR  
 L2 13 S L1  
 L3 STR L1  
 L4 0 S L3  
 L5 2534 S L1 FUL  
 SAV TEMP KUMAR612/A L5  
 L6 STR L3  
 L7 0 S L6 SAM SUB=L5  
 L8 4 S L6 FUL SUB=L5  
 SAV L8 TEMP KUMAR612A/A  
 L9 STR L6  
 L10 0 S L9 SAM SUB=L5  
 L11 6 S L9 FUL SUB=L5

SAV TEMP L11 KUMAR612B/A  
L12 11 S L5 AND C6-C6/ES AND NR>=8  
L13 0 S L12 NOT (S OR P)/ELS

FILE 'HCAPLUS' ENTERED AT 15:19:56 ON 25 JUL 2004

E CHEN K/AU  
L14 1611 S E3-E35  
E CHEN KWUN/AU  
L15 22 S E5  
E YANG K/AU  
L16 583 S E3-E24  
E YANG KUNG/AU  
L17 11 S E7,E8  
E LEE W/AU  
L18 2515 S E3-E63  
E LEE WEI/AU  
L19 39 S E3,E10  
E PAN J/AU  
L20 473 S E3-E29  
E PAN JIA/AU  
L21 5 S E3,E5  
L22 4 S E26  
L23 3 S L8,L11  
L24 3 S L14-L22 AND L23  
L25 23 S L14-L22 AND P/DT  
E TW2003-92104138/AP,PRN  
L26 1 S L14-L22 AND TW/PC,PRC,AC  
L27 741 S L5  
L28 6 S L14-L22 AND L27  
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 15:27:22 ON 25 JUL 2004

L29 12 S E1-E12  
L30 4 S L29 NOT L8,L11

FILE 'USPATFULL, USPAT2' ENTERED AT 15:27:57 ON 25 JUL 2004

L31 0 S L8 OR L11

FILE 'REGISTRY' ENTERED AT 15:28:08 ON 25 JUL 2004

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 15:28:42 ON 25 JUL 2004

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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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FILE COVERS 1907 - 25 Jul 2004 VOL 141 ISS 5  
FILE LAST UPDATED: 23 Jul 2004 (20040723/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 124 all hitstr tot

L24 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:977476 HCAPLUS  
DN 138:204497  
ED Entered STN: 29 Dec 2002  
TI Chiral Lewis Acid-Catalyzed Asymmetric Baylis-Hillman Reactions  
AU Yang, Kung-Shuo; Lee, Wei-Der; Pan, Jia-Fu;  
Chen, Kwunmin  
CS Department of Chemistry, National Taiwan Normal University, Taipei, 116,  
Taiwan  
SO Journal of Organic Chemistry (2003), 68(3), 915-919  
CODEN: JOCEAH; ISSN: 0022-3263  
PB American Chemical Society  
DT Journal  
LA English  
CC 21-2 (General Organic Chemistry)  
Section cross-reference(s): 75  
OS CASREACT 138:204497  
AB An effective chiral Lewis acid-catalyzed asym. Baylis-Hillman reaction is  
described. Good to high enantioselectivities were obtained using 3 mol %  
chiral catalyst. Novel camphor-derived dimerized ligands were prepared from  
the condensation of (+)-ketopinic acid with diamines and hydrazine under  
acidic conditions. When  $\alpha$ -naphthyl acrylate was used as a Michael  
acceptor, the reaction is complete within 20 min with high  
stereoselectivity and in reasonable chemical yields.  
ST Baylis Hillman asym chiral Lewis acid catalyst  
IT Addition reaction  
(Baylis-Hillman, stereoselective; chiral Lewis acid-catalyzed asym.  
Baylis-Hillman reactions)  
IT Asymmetric synthesis and induction  
(chiral Lewis acid-catalyzed asym. Baylis-Hillman reactions)  
IT Lewis acids  
RL: CAT (Catalyst use); USES (Uses)  
(chiral Lewis acid-catalyzed asym. Baylis-Hillman reactions)  
IT Ligands  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)  
(chiral; chiral Lewis acid-catalyzed asym. Baylis-Hillman reactions)  
IT Addition reaction catalysts  
(stereoselective, Baylis-Hillman; chiral Lewis acid-catalyzed asym.  
Baylis-Hillman reactions)  
IT 52093-26-2, Lanthanum(III) triflate  
RL: CAT (Catalyst use); USES (Uses)  
(chiral Lewis acid-catalyzed asym. Baylis-Hillman reactions)  
IT 500224-32-8P 500224-33-9P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)  
(chiral Lewis acid-catalyzed asym. Baylis-Hillman reactions)  
IT 75-07-0, Acetaldehyde, reactions 78-84-2, Isobutyraldehyde 96-33-3,  
Methyl acrylate 100-52-7, Benzaldehyde, reactions 104-53-0,  
3-Phenylpropanal 107-15-3, Ethylenediamine, reactions 123-11-5,  
p-Anisaldehyde, reactions 123-38-6, Propionaldehyde, reactions  
555-16-8, 4-Nitrobenzaldehyde, reactions 937-41-7, Phenyl acrylate  
1121-22-8, trans-1,2-Cyclohexanediamine 1663-39-4, tert.-Butyl acrylate  
2043-61-0, Cyclohexanecarboxaldehyde 2495-35-4, Benzyl acrylate  
20069-66-3, 1-Naphthyl acrylate 40724-67-2, (+)-Ketopinic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chiral Lewis acid-catalyzed asym. Baylis-Hillman reactions)  
IT 500166-64-3P 500166-69-8P 500166-70-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(chiral Lewis acid-catalyzed asym. Baylis-Hillman reactions)

IT 108945-27-3P 112572-93-7P 140238-43-3P 140630-33-7P 189372-86-9P  
 221346-91-4P 293307-67-2P 500166-63-2P 500166-65-4P 500166-66-5P  
 500166-67-6P 500166-68-7P 500166-71-2P 500166-72-3P 500166-73-4P  
 500166-74-5P 500166-75-6P 500166-76-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(chiral Lewis acid-catalyzed asym. Baylis-Hillman reactions)

IT 500224-34-0P 500224-35-1P

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation);

PREP (Preparation); USES (Uses)

(crystal structure of)

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT 500224-32-8P 500224-33-9P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)

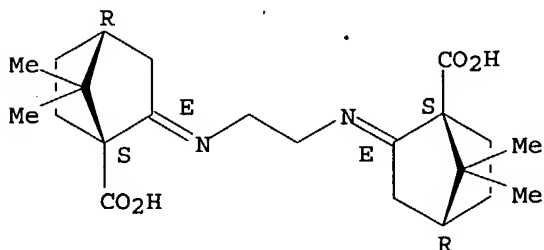
(chiral Lewis acid-catalyzed asym. Baylis-Hillman reactions)

RN 500224-32-8 HCAPLUS

CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-(1,2-ethanediyldinitrilo)bis[7,7-dimethyl-, (1S,1'S,2E,2'E,4R,4'R)- (9CI) (CA INDEX NAME)

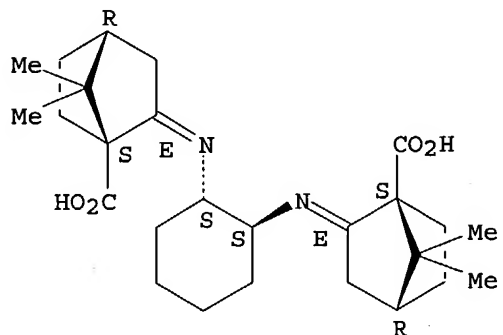
Absolute stereochemistry.

Double bond geometry as shown.



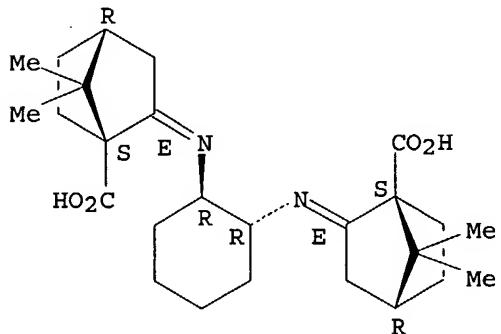
RN 500224-33-9 HCAPLUS  
 CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1S,2S)-1,2-cyclohexanediylidinitrilo]bis[7,7-dimethyl-, (1S,1'S,2E,2'E,4R,4'R) - (9CI)  
 (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



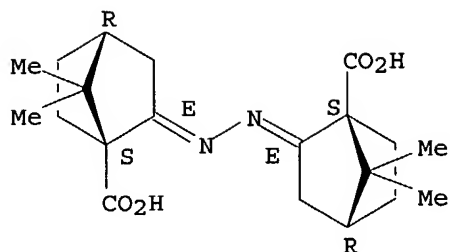
IT 500224-34-0P 500224-35-1P  
 RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation);  
 PREP (Preparation); USES (Uses)  
 (crystal structure of)  
 RN 500224-34-0 HCAPLUS  
 CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1R,2R)-1,2-cyclohexanediylidinitrilo]bis[7,7-dimethyl-, (1S,1'S,2E,2'E,4R,4'R) - (9CI)  
 (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



RN 500224-35-1 HCAPLUS  
 CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-azinobis[7,7-dimethyl-, (1S,1'S,2E,2'E,4R,4'R) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



L24 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:173335 HCAPLUS  
 DN 136:369559  
 ED Entered STN: 11 Mar 2002  
 TI Enantioselective Aziridination of Alkenes with N-Aminophthalimide in the Presence of Lead Tetraacetate-Mediated Chiral Ligand  
 AU Yang, Kung-Shou; Chen, Kwunmin  
 CS Department of Chemistry, National Taiwan Normal University, Taipei, 116, Taiwan  
 SO Organic Letters (2002), 4(7), 1107-1109  
 CODEN: ORLEF7; ISSN: 1523-7060  
 PB American Chemical Society  
 DT Journal  
 LA English  
 CC 27-3 (Heterocyclic Compounds (One Hetero Atom))  
 OS CASREACT 136:369559  
 AB Reaction of various N-alkenoyloxazolidinones with N-aminophthalimide and lead tetraacetate in the presence of camphor-derived chiral ligands provides the desired N-phthalimidoaziridines in good to high enantiomeric excess (67-95% ee) at 0 °C within 15 min. The absolute stereochem. of the corresponding aziridine derivs. was established by chemical correlations.  
 ST aziridination stereoselective alkenoyloxazolidinone aminophthalimide chiral ligand  
 IT Cycloaddition reaction  
 Cycloaddition reaction catalysts  
 (aziridination, stereoselective; enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)  
 IT Ligands  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (chiral; enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)  
 IT Alkenes, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)  
 IT 87-69-4, (+)-Tartaric acid, uses 546-67-8, Lead tetraacetate  
 RL: CAT (Catalyst use); USES (Uses)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)  
 IT 404582-34-9P 404582-36-1P 423770-45-0P  
 423770-46-1P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)  
 IT 423770-47-2P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)

IT 423770-56-3P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)

IT 107-15-3, Ethylenediamine, reactions 464-78-8, Ketopinic acid  
 2043-21-2 20439-47-8, (1R,2R)-1,2-Cyclohexanediamine 21436-03-3,  
 (1S,2S)-1,2-Cyclohexanediamine 31978-13-9 109299-92-5 109299-93-6  
 109299-94-7 227024-93-3 423770-49-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)

IT 423770-51-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)

IT 1875-48-5, N-Aminophthalimide  
 RL: RGT (Reagent); RACT (Reactant or reagent)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)

IT 151-56-4DP, Aziridine, derivs. 332923-24-7P 332923-28-1P  
 423770-48-3P 423770-50-7P 423770-52-9P 423770-53-0P 423770-54-1P  
 423770-55-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

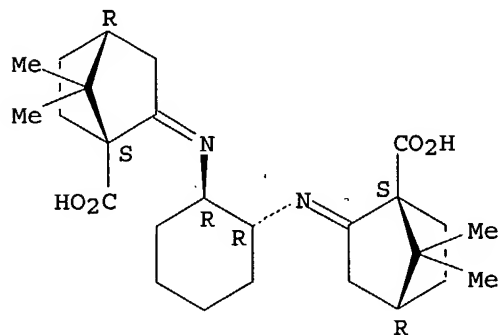
RE  
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IT 404582-34-9P 404582-36-1P 423770-45-0P  
 423770-46-1P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
 (enantioselective aziridination of alkenes with N-aminophthalimide in the presence of lead tetraacetate and a chiral ligand)

RN 404582-34-9 HCAPLUS

CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1R,2R)-1,2-cyclohexanediyldinitrilo]bis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry unknown.

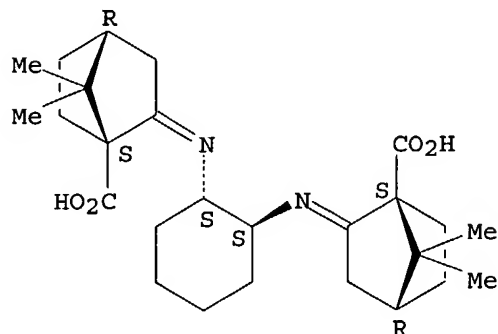


RN 404582-36-1 HCAPLUS

CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1S,2S)-1,2-cyclohexanediyldinitrilo]bis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA

INDEX NAME)

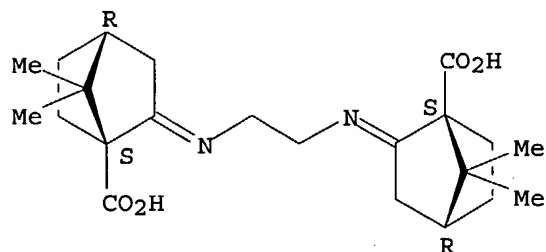
Absolute stereochemistry.  
Double bond geometry unknown.



RN 423770-45-0 HCAPLUS

CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-(1,2-ethanediyldinitrilo)bis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA INDEX NAME)

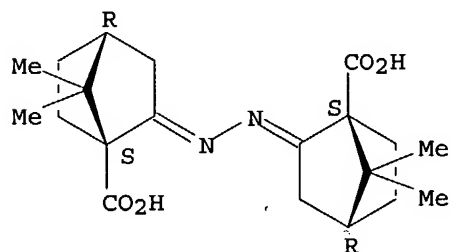
Absolute stereochemistry.  
Double bond geometry unknown.



RN 423770-46-1 HCAPLUS

CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-azinobis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry unknown.



L24 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:780044 HCAPLUS

DN 136:247173

ED Entered STN: 26 Oct 2001

TI A facile catalytic oxidation of activated hydrocarbons to the carbonyl functionality mediated by Mn(II) complexes

- AU Pan, Jia-Fu; Chen, Kwunmin  
 CS Department of Chemistry, National Taiwan Normal University, Taipei, 116, Taiwan  
 SO Journal of Molecular Catalysis A: Chemical (2001), 176(1-2), 19-22  
 CODEN: JMCCF2; ISSN: 1381-1169  
 PB Elsevier Science B.V.  
 DT Journal  
 LA English  
 CC 21-2 (General Organic Chemistry)  
 OS CASREACT 136:247173  
 AB Selective oxidation of activated hydrocarbons to the corresponding carbonyl functionality was achieved with good to high material yields using novel camphor-derived ligands mediated with Mn(II) as catalyst. In general, the reaction proceeds smoothly with 5 mol % of catalyst and 2.0 equiv of t-BuOOH as oxidant in CH<sub>2</sub>Cl<sub>2</sub> in 5-30 min.  
 ST oxidn hydrocarbon manganese camphor derived ligand  
 IT Oxidation catalysts  
     (facile catalytic oxidation of activated hydrocarbons to carbonyl compds. mediated by manganese(II) complexes)  
 IT Hydrocarbons, reactions  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
     (facile catalytic oxidation of activated hydrocarbons to carbonyl compds. mediated by manganese(II) complexes)  
 IT Carbonyl compounds (organic), preparation  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
     (facile catalytic oxidation of activated hydrocarbons to carbonyl compds. mediated by manganese(II) complexes)  
 IT 638-38-0, Manganese diacetate 10025-73-7, Chromium trichloride 404582-34-9 404582-36-1  
     RL: CAT (Catalyst use); USES (Uses)  
     (facile catalytic oxidation of activated hydrocarbons to carbonyl compds. mediated by manganese(II) complexes)  
 IT 86-73-7, Fluorene 95-13-6, Indene 100-42-5, Styrene, reactions 103-30-0, trans-Stilbene 103-65-1, Propylbenzene 108-88-3, Toluene, reactions 110-83-8, Cyclohexene, reactions 119-64-2, 1,2,3,4-Tetrahydronaphthalene 493-05-0, Isochroman 496-11-7, Indan 496-14-0, Phthalan 613-31-0, 9,10-Dihydroanthracene 771-98-2, 1-Phenylcyclohexene  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
     (facile catalytic oxidation of activated hydrocarbons to carbonyl compds. mediated by manganese(II) complexes)  
 IT 83-33-0P, 1-Indanone 84-65-1P, 9,10-Anthraquinone 87-41-2P, Phthalide 93-55-0P, Propiophenone 100-52-7P, Benzaldehyde, preparation 486-25-9P, Fluoren-9-one 529-34-0P,  $\alpha$ -Tetralone 930-68-7P, 2-Cyclohexen-1-one 4702-34-5P, Isochroman-1-one 10345-87-6P, 3-Phenyl-2-cyclohexen-1-one 17488-64-1P 61463-21-6P, 1H-Inden-1-ol  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
     (facile catalytic oxidation of activated hydrocarbons to carbonyl compds. mediated by manganese(II) complexes)  
 RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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IT 404582-34-9 404582-36-1

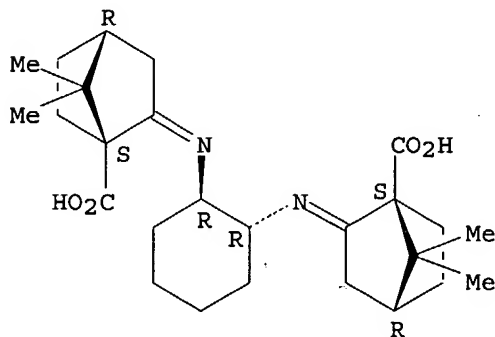
RL: CAT (Catalyst use); USES (Uses)

(facile catalytic oxidation of activated hydrocarbons to carbonyl compds.  
mediated by manganese(II) complexes)

RN 404582-34-9 HCAPLUS

CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1R,2R)-1,2-cyclohexanediylldinitrilo]bis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry unknown.

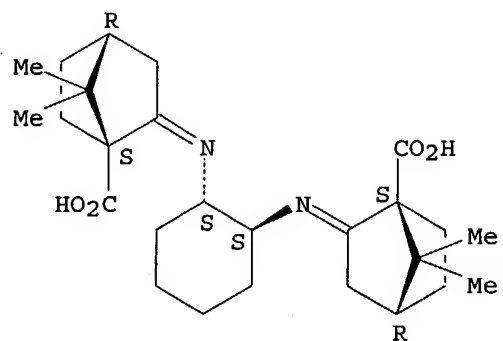


RN 404582-36-1 HCAPLUS

CN Bicyclo[2.2.1]heptane-1-carboxylic acid, 2,2'-[(1S,2S)-1,2-cyclohexanediylldinitrilo]bis[7,7-dimethyl-, (1S,1'S,4R,4'R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry unknown.



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